

**Generation of
program data**

Compiler
Linker
HEX converter
or similar program

Fig. 1

Fig. 2: memorymap.hex

Program data
(raw format)

**Generation of
programming data**

Programming data
converter

Fig. 2: description.txt

Description data
Equipment description
For control unit

Encoding ?

yes

no

Encoder

Arbitrary format, case of
Fig. 2: programmingdata.hex

Programming data
suitable for distribution

Data transfer

Diagnostic unit

**Memory
programming**

Control unit

Decoding if necessary

Compatibility check
of control unit

Programming of
control-unit memory

Address	Date
80h	FFh
81h	FEh
82h	FDh
83h	FDh
84h	FBh
85h	FAh
86h	F9h
87h	F8h
88h	F7h
89h	F6h
8Ah	F5h
8Bh	F4h
8Ch	F3h
8Dh	F2h
8Eh	F1h
8Fh	F0h

Memory map
Fig. 2a

Fig. 2

1

```
:10008000FFFFDFCFCBFAF9F8F7F6F5F4F3F2F1F0F8
:000000001FF
```

memorymap.hex
Intel Hex Format
Fig. 2b

2

```
Input "memorymap.hex"
Output "programmingdata.hex"

Hardware number "446 125 423 1"
```

description.txt
Fig. 2c

Content of programming data set

	1	2	3	4	5	6	7	8	9
0	--	02h	44h	61h	25h	42h	31h	06h	00h
10	00h	80h	07h	10h	FFh	FEh	FDh	FCh	FBh
20	F9h	F8h	F7h	F6h	F5h	F4h	F3h	F2h	F1h
									F0h

Fig. 2d

Format of programming data set

Record type	Length (optional)	Data	Meaning
02h		44h 61h 25h 42h 31h	Hardware product number
06h		00h 00h 00h 80h	Start address (32-bit)
07h	10h	FFh FEh FDh FCh FBh FAh F9h F8h F7h F6h F5h F4h F3h F2h F1h F0h	Data

Fig. 2e

3

```
:1000000002446125423106000080000710FFFFFD1A
:0D001000FCBFAF9F8F7F6F5F4F3F2F1F065
:000000001FF
```

programmingdata.hex
Intel Hex Format
Fig. 2f

Input "memorymap.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 HardwareNumber "446 125 433 2"
 HardwareNumber "446 125 433 3"

Fig. 3

Fig. 3a

2a

Input "memorymap.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 SerialNumber "305 4 123 456" - "305 4 123 699"

Fig. 3b

2b

Input "memorymap.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 SoftwareNumber "246 125 430 1"

Fig. 3c

2c

Input "memorymap.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 SerialNumber "305 4 123 456" - "305 4 123 699"
 SoftwareNumber "246 125 430 1"

Fig. 3d

2d

Input "memorymap.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 HardwareNumber "446 125 433 2"
 HardwareNumber "446 125 433 3"

SerialNumber "305 4 123 456" - "305 4 123 699"
 SerialNumber "305 4 123 800" - "305 4 123 999"

SoftwareNumber "246 125 430 1"
 SoftwareNumber "246 125 430 2"
 SoftwareNumber "246 125 430 3"
 SoftwareNumber "246 125 430 4"

Fig. 3e

2e

Fig. 3f

2f

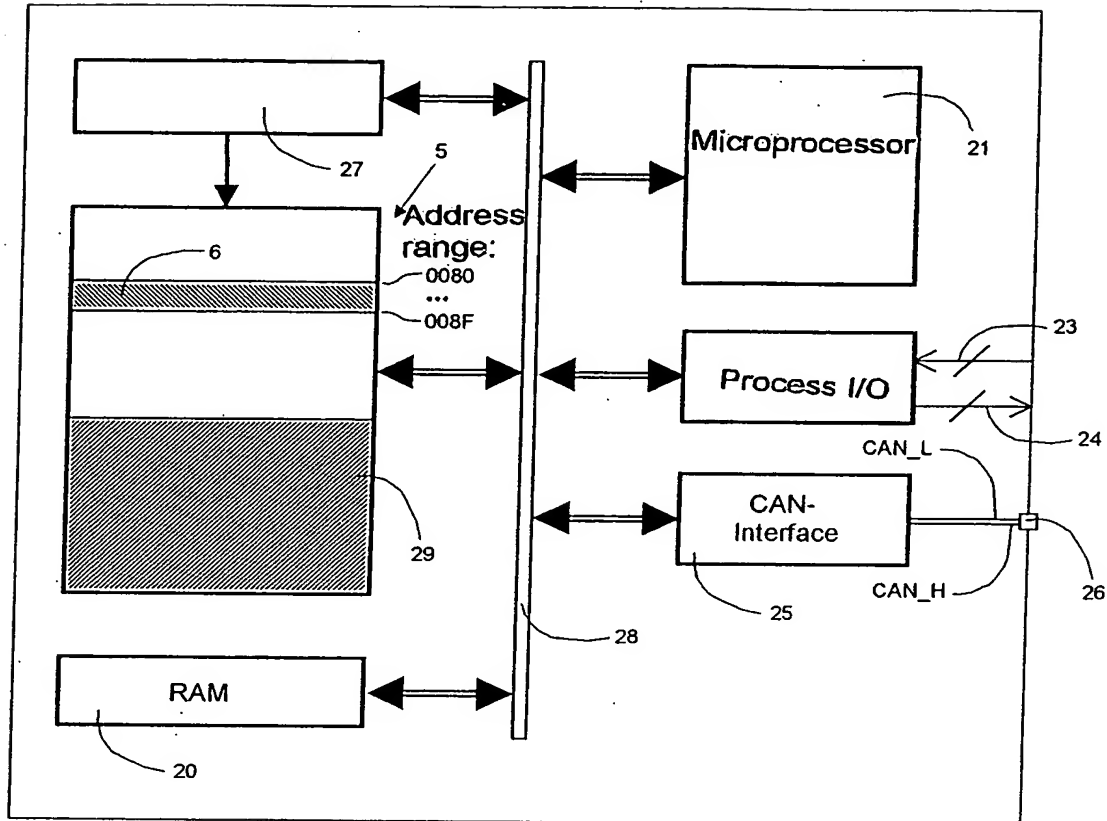
Input "memorymap1.hex"
 Output "programmingdata.hex"

HardwareNumber "446 125 433 1"
 SoftwareNumber "246 125 430 0"

Input "memorymap2.hex"

HardwareNumber "446 125 433 2"
 SerialNumber "305 4 123 456" - "305 4 123 699"
 SoftwareNumber "246 125 430 1"

Fig. 4



4

Fig. 5

